Amendments to the Specification

Please delete the paragraph at page 1, lines 4-6.

Please insert the following new paragraph at page 1, line 4.

This application is a 371 of PCT/EP00/08678 filed September 6, 2000, and claims priority of DE 199 43 921.4 filed September 14, 1999.

Please replace the paragraph beginning on page 1, line 17 with the following amended paragraph.

--Typically, membrane adsorbers are used as part of a two-step process of (1) separation of particles by centrifugation or by cross flow filtration and (2) separation of the desired bioactive substance by the membrane adsorber. In an attempt to combine the step of particle separation with separation of the target substance in a single pass through the membrane adsorber, a crossflow filtration process has been suggested using Cibacron blue-modified membrane for the isolation of the enzyme maleate dehydrogenase from E-coli and baker's yeast. 12 *Bioforum* 455 (1992). According to this process, the particle-laden fluid feed is ridden of cell remnants by directing the feed tangentially across one membrane layer, allowing cell fragments to remain on the membrane's surface while the target substance is collected in the membrane. After removal of the cell fragments by washing the membranes, the target substance is eluted with appropriate solvents. A disadvantage of this process lies in the non-uniform permeation of the target substance through the single membrane layer. This disadvantage can be overcome by the utilization of a spiral-wound cross-flow filtration apparatus as shown in Fig. 10 of ~~U.S. Application Serial No. 09/397,456 filed September 16, 1999 now~~ U.S. Patent No. 6,294,090, the pertinent disclosure of which is incorporated herein

by reference. However, the process still has an additional drawback in that it requires a large driving force to provide a higher permeate flow and a sufficient overflow velocity for entrainment of the particles with the fluid feed. Otherwise, the first membrane layer would be blinded and the entire permeation process defeated.

Please replace the paragraph beginning on page 5 at line 36, with the following amended paragraph:

--The apparatus can be constructed as a flat module or, in an advantageous embodiment of the invention, as a spiral wound module. A particularly preferred design is the type of cylindrical spiral wound module disclosed in ~~U.S. Application Serial No. 09/397,456 filed September 16, 1999, now~~ U.S. Patent No. 6,294,090, the disclosure of which is incorporated herein by reference.--

Please replace the paragraph beginning on page 6 at line 8, with the following amended paragraph:

--Two meters of a 6 cm wide, strongly basic ion exchanger adsorption membrane (SARTOBIND® Q, Sartorius AG of Goettingen, Germany), were provided with 3.5 mm diameter apertures in substantially the arrangement shown in Fig. 2, spaced apart from each other 1.8 cm and taking up 1.8% of the surface area of the membrane. This membrane strip was spirally wound together with a 6 cm wide band of polypropylene mesh to make a cylindrical module of the design shown in ~~U.S. Application Serial No. 09/397,456 filed September 16, 1999, now~~ U.S. Patent No. 6,294,090, the disclosure of which is

incorporated herein by reference. For a First Run one liter of a particle-laden bovine serum albumin (BSA) feed solution (pH 8.3) containing particles of air-dried bakers yeast in a TRIS buffer solution (0.01 M tris (hydroxymethyl) amino methane) adjusted to pH 8.3 with concentrated HCl, was fed to the module at a rate of 0.6 L/ min. Permeate from the module was conducted through a flow UV photometer which continuously recorded UV absorption at 280 nm, representing the absorption of yeast particles and cell debris. After passage of the entire liter of liquid feed the module was flushed with the TRIS buffer until the absorption at 280 nm was nil. Subsequently, first the BSA was eluted form the module with a solution of 0.25 M NaCl in the TRIS buffer and finally the non-specifically bound yeast particles were eluted with a solution of 1M NaCl in the TRIS buffer. During the entire procedure, no significant increase of pressure in the module occurred.--